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Scottish Hospital Centre
INFORMATION SHEET

PREPARATION ROOM

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Introduction

This information sheet presents the design and layout for a preparation room serving up to thirty beds. The development of this room, and its relationship within the ward unit, is the result of the observed pattern of nurses' work described in the Scottish Home and Health Department Planning Note No. 1 [1]. The preparation room is the area where all clean and sterile items of nursing equipment should be stored; it replaces a variety of small rooms and storage points. Its design should facilitate centralisation of storage of nursing equipment and minimise walking distances in the collection and assembly of items for nursing procedures. Centralisation of storage avoids unnecessary sub-division of areas which is inefficient and costly. The detailed storage of the type and number of items of equipment will vary in preparation rooms serving different specialties; the layout in this Information Sheet is a basic standard.

The recommended space requirements for the storage of each group of items is based on studies in twenty wards with an average complement of twenty-four beds. The specialties surveyed were medicine, surgery, geriatrics, paediatrics, E.N.T., obstetrics, psychiatry and orthopaedics. The layout is the result of a mock-up which was revised following discussion between the study team and representative designers and users.

Operational Policies

It is assumed that a topping-up system for all supplies of replenishable items and items not processed on the ward will be operated. Topping-up may be to a pre-determined level or number. A topping-up system depends on a full understanding of the method by all staff involved. New staff, particularly those who deliver and top-up to the required levels, should be instructed on the service before they start their rounds. Any breakdown in this service will produce a lack of confidence in the whole system; hoarding will result and space allocated for storage will then be inadequate. Obsolete items of equipment should be returned to the appropriate department.

The storage space for all items kept on the ward must be sufficient for a 48-hour supply to cover week-end periods when central supply services may not operate. It should always be possible however to obtain essential supplies from central storage, e.g. drugs, linen and C.S.S.D. items. Hospital authorities should ensure that the necessary arrangements are made for this.

It is recommended that trolleys should serve the dual role of work-top and conveyor. This avoids work-tops being misused as extra storage space and prevents double handling of equipment.

The basic functions of a preparation room as defined in the S.H.H.D. Planning Note No. 1 [1] are:

1. To provide storage space for all supplies, clean and sterile, necessary for the care and treatment of patients.
2. To provide space for the preparation and assembly of items of equipment for basic nursing, diagnostic and therapeutic procedures.
3. To provide storage space for trolleys required to transport equipment from the point of storage to the point of use.

Communications

The preparation room is the most frequently used working area in a ward unit, but it is only occupied for short periods of time. The recommended open plan and the observation window on to the ward corridor provide visual links with the rest of the area. The patient nurse call system should extend into this room.

Lighting

Artificial lighting should be at 160 lux (15 lumens/sq. ft.) for work-top level. If the room is to be permanently lit by artificial lighting, this figure should be increased.

Heating and ventilation

The air temperature should be kept to 18 degrees C (65 degrees F) throughout the year. This implies heating in the winter, and, if the siting makes it necessary, cooling in the summer (solar gain, or internal heat build-up). If the room is sited on the periphery, with natural ventilation, it will require approximately two air changes/hour; if designed as part of a central core it will be necessary to increase this.

Security

Open shelves are advised for general storage within the preparation room except for items which involve security problems, including those governed by statute [2], (Dangerous Drugs and Schedule 1 Poisons), and those which represent a potential hazard (medicines and external poisons). Doors are necessary for these; they should be fitted with locks according to B.S. 2881.[3] As the preparation room is in continual use, normal security for general items is most efficiently provided by easy observation and good visibility. This, and easy accessibility can be achieved by glazing on to the ward corridor and by having openings without doors between the preparation room, the disposal room and the ward corridor. Ease of movement for staff and trolleys is most important.

Noise

Noise should be eliminated at source. Stainless steel equipment and trolleys with small castors should be avoided. Noise can be reduced by using sound absorbent materials on the ceiling where they are least liable to get dirty or damaged.

Cleaning and maintenance

The floor and the walls will require regular cleaning and washing. Paint is recommended for the walls, and a monolithic covering such as p.v.c. with welded seams and a coved skirting is recommended for the floor. For ease of cleaning, any furniture or equipment not fitted with a solid plinth should be fixed at 450 mm. (1′ 6″) clear of the floor.

Study team: architect: MISS E. T. PHILLIPS; medical officer: Dr A. M. ANDERSON; nursing officers: MISS E. K. McNAUGHT and MISS E. A. REID; work study officer: T. W. MAYO.

Anthropometrics

All equipment, trolleys and shelves must be designed and placed so that they can be used by a woman of average height, 1.600 m. (5′ 4″). The highest open shelf should not exceed 1.750 m. (5′ 10″) from floor level and the lowest not be less than 450 mm. (1′ 6″). Work-tops to the sink and trolleys (including 4″ castors) should be 870 mm. (2′ 10″) high.

The position of high level cupboards with side-hung doors should be carefully considered in relation to possible injury to a user.

Space requirements

The area recommended in the layout is 16.72 m.^{2} (180 sq. ft.). Although the dimensions are variable, the working area will become cramped if the narrow dimension is reduced below 3.000 m. (10′ 0″). The floor should be kept clear of all equipment except trolleys. Space should be available to enable two nurses to assemble items for procedures, and a porter with his trolley to top-up supplies.

Space requirements for equipment

Bulky items of equipment, e.g. cot-sides, bed-cages, etc., should be stored separately in an equipment room.

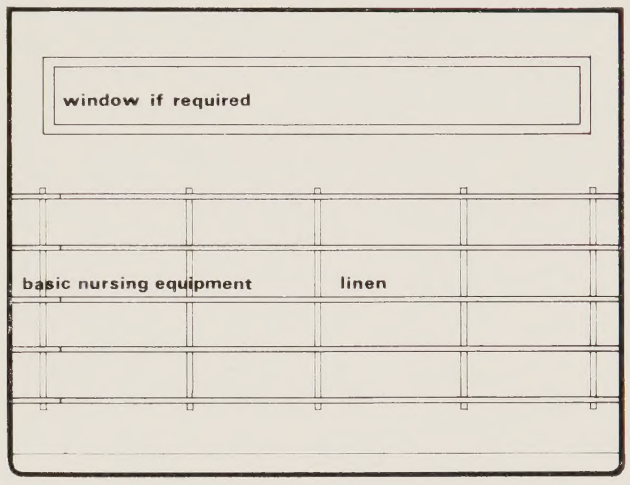
Flexibility in the methods of storage to accommodate the wide variety and range of nursing equipment is important. This flexibility must allow for continuing changes in manufacturers' method of packing supplies and for the fact that the ward unit may be required to house several specialties or sub-specialties in the course of its life.

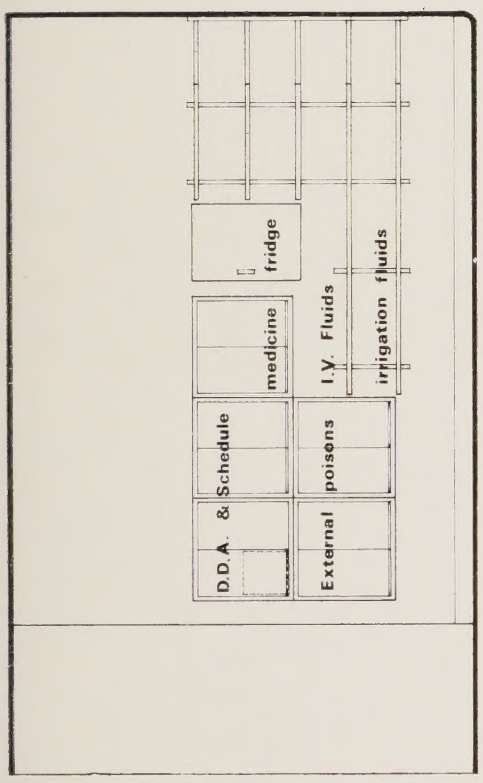
Item	*Size**			*Quantity*	*Comment*
	H	W	D		
1. Cupboards with lockable doors					Standard Ministry of Health I.H.B. H.W.D. storage units. There will be one lock and key exclusively for the D.D.A. cupboard. One other key will operate the Schedule Drugs, medicines, external poisons cupboard, and if possible the refrigerator.
(a) D.D.A.	300 mm. 12″	300 mm. 12″	250 mm. 10″	1	Enclosed within Schedule 1 Poison cupboard.
(b) Schedule Drugs	600 mm. 24″	600 mm. 24″	300 mm. 12″	2	Including a shelf or slot for storing the Dangerous Drug Book.
(c) Medicines	600 mm. 24″	600 mm. 24″	300 mm. 12″	1	
(d) External Poisons	600 mm. 24″	600 mm. 24″	300 mm. 12″	2	
(e) Refrigerator	585 mm. 23″	470 mm. 18½″	510 mm. 20″	1	Capacity 0.52 m.^{2} (1.8 cu. ft.)
2. Shelves adjustable					
(a) Basic Nursing Equipment (sterile and clean)	300 mm. 12″	— —	300 mm. 12″	12.000 m. 40 ft.	
(b) Linen	300 mm. 12″	— —	400 mm. 16″	9.600 m. 32 ft.	Height indicated is a clear measurement between shelves.
(c) I.V. and Irrigation Fluids	300 mm. 12″	— —	300 mm. 12″	2.400 m. 8 ft.	
3. Dispensers with drawer	800 mm. 31″	700 mm. 28″	300 mm. 12″	4	Adjustable shelving may be used as an alternative. Certain items, e.g. catheters and spigots, are more easily stored in drawers.
4. Sink with standard taps and work-top each side		1370 mm. 54″	480 mm. 19″	1	Fixed at 870 mm. (2′ 10″) above the floor. Inside measurements: H 200 mm. 8″; W 460 mm. 18″; D 380 mm. 15″
5. Towel dispenser				1	
6. Soap holder				1	
7. Disposal bin for paper towels				1	
8. Trolleys	870 mm. 34″	450 mm. 18″	450 mm. 18″	4	To B.S. 3236[4] fitted with 4″ castors. This trolley will also serve as a working top and writing surface.
9. Socket outlet single				1	For testing equipment (e.g. suction apparatus).
10. Rail for polythene sheeting		600 mm. 24″		1	Storage for this item will vary according to its method of supply.

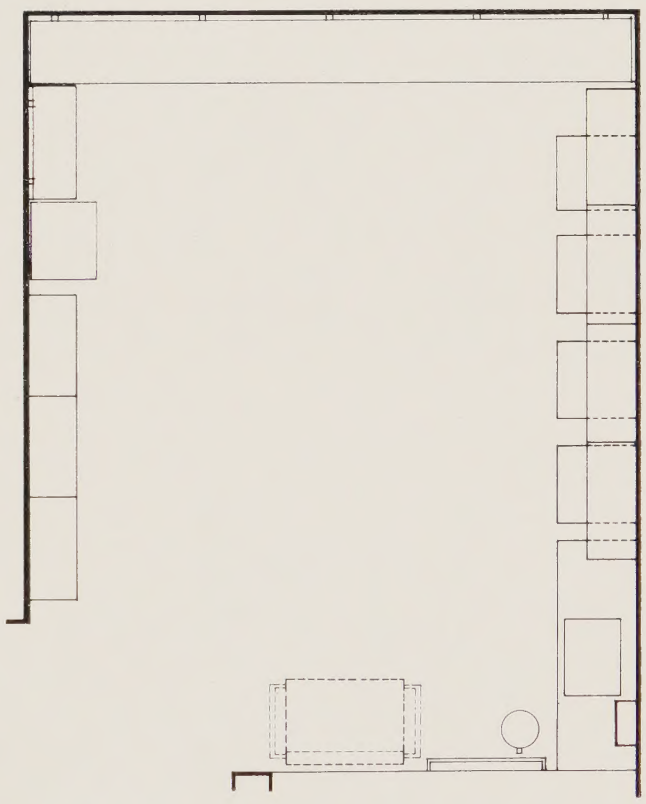
* All imperial measurements are natural equivalents of the metric units except equipment at present available only in imperial dimensions.

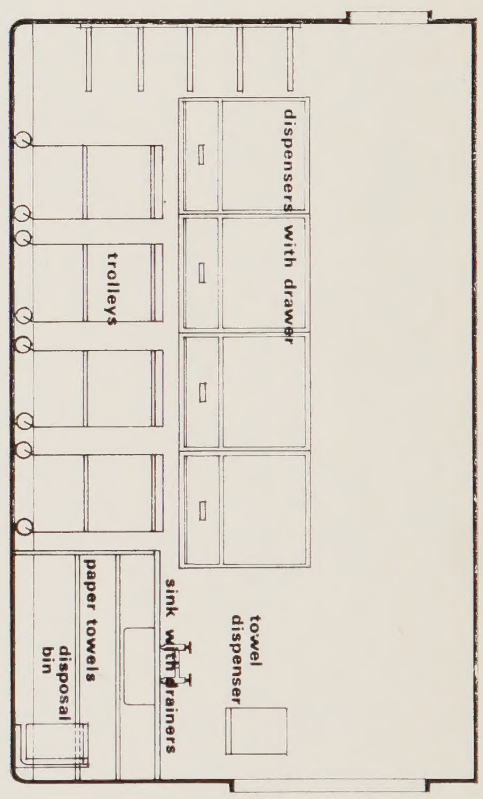
The equipment listed on the opposite page varies from that listed in the Ministry of Health Equipment Note No. 4 [5] for a clean utility room (preparation room). The main variations are :—

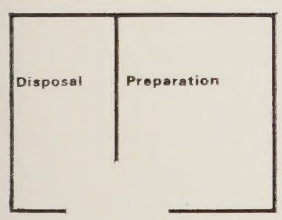
Items added	*Comments*	*Items removed*	*Comments*
D.D.A. cupboard	Centralisation of nursing equipment in one area for ease of work.	Heated cupboard	Considered unnecessary in a basic layout; may be necessary for specialties, e.g. gynaecology, obstetrics.
Medicine cupboard	As above	Hot plate	Considered unnecessary. Poultices can be heated on the kitchen cooker.
Linen storage	As above	Bin, pedal operated	Considered unnecessary. Material other than paper hand towels are disposed of in the disposal room.
Patients' washing bowls	As above		
Medicine trolley	Policy decision		



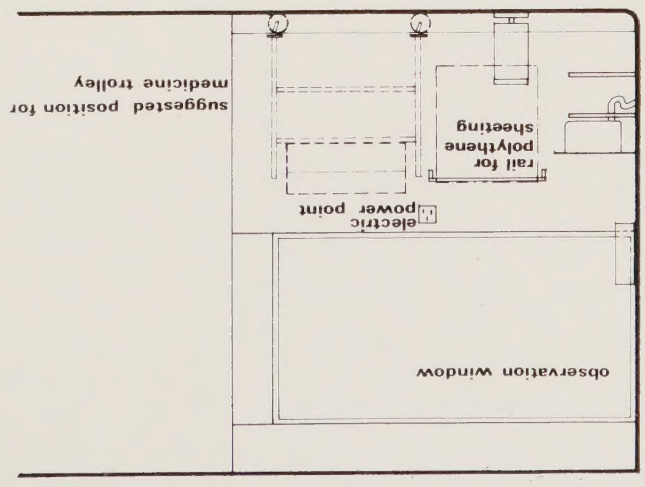






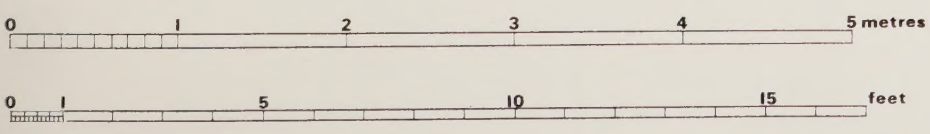


RELATIONSHIP DIAGRAM



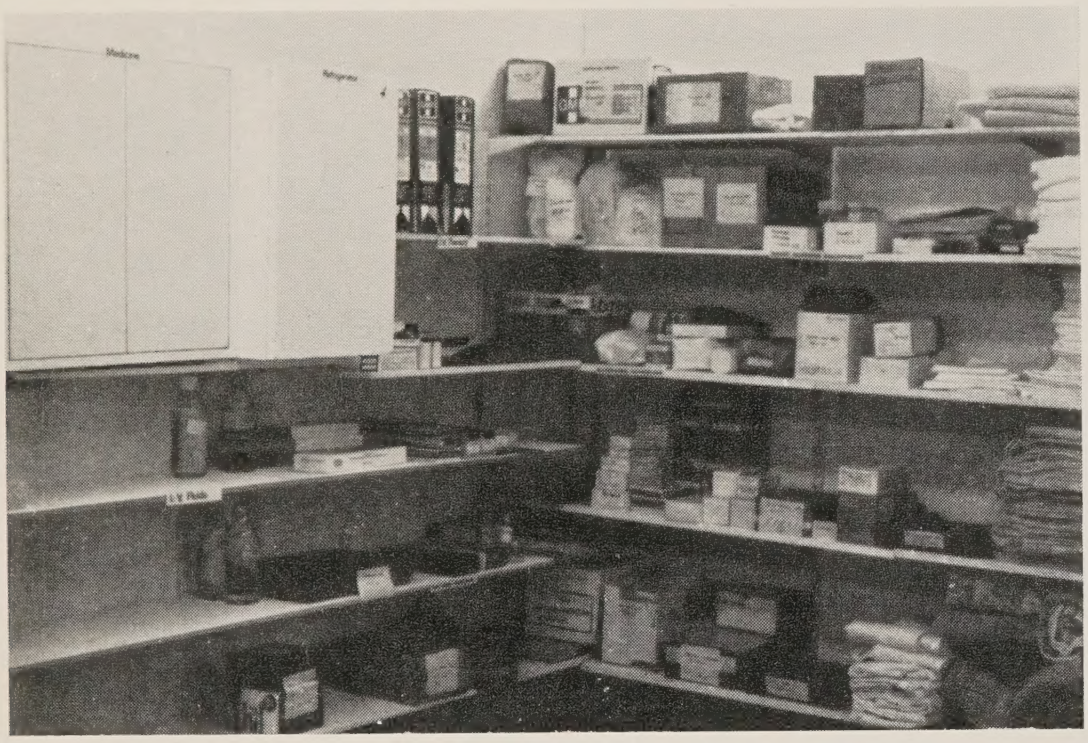
PREPARATION ROOM

DRAFT LAYOUT

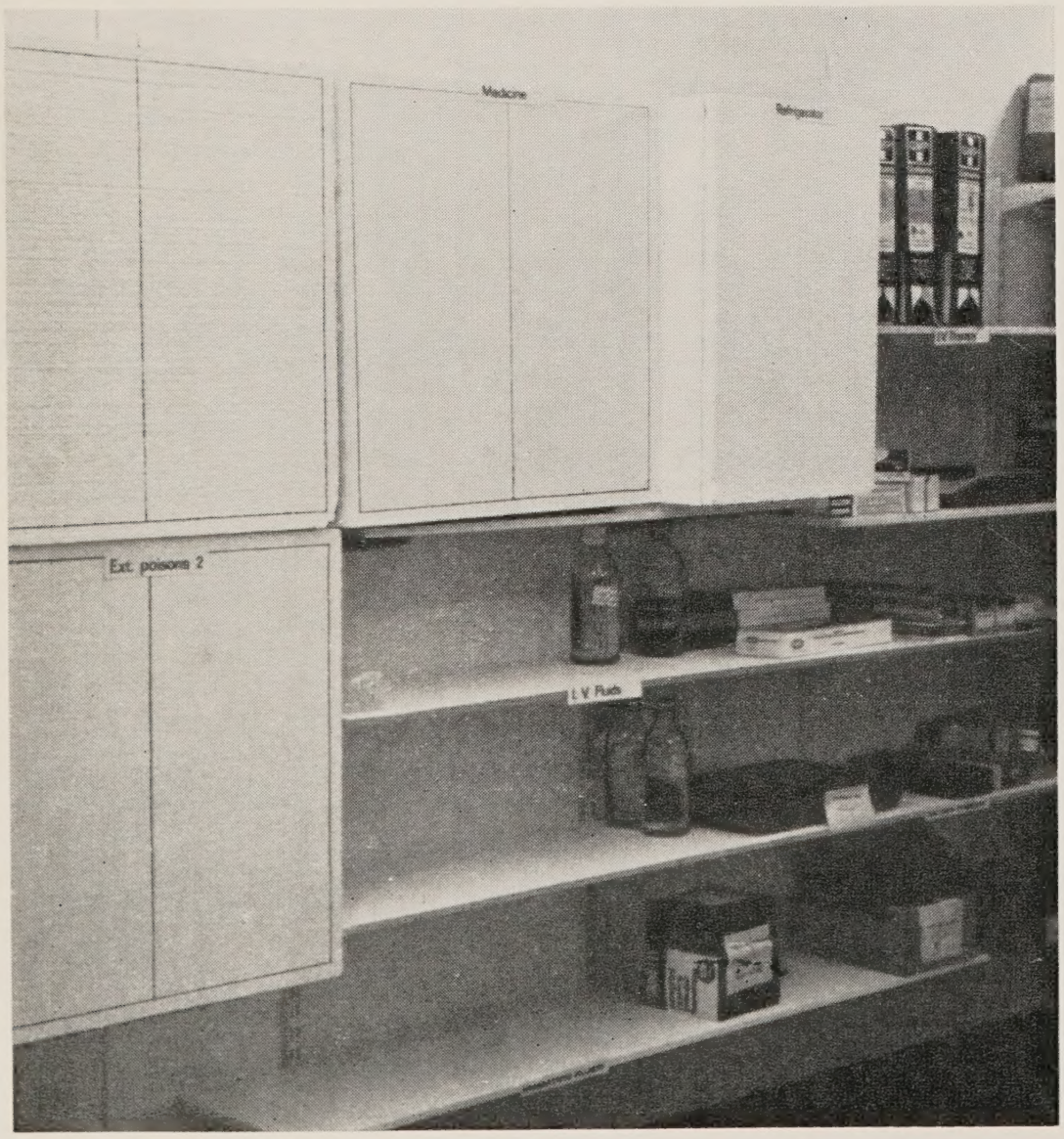


These photographs of the mock-up show :

1. *The adjustable shelves for the storage of linen.*



2. *The adjustable shelves for the storage of basic nursing equipment.*



3. *The group of lockable cupboards including the refrigerator.*

References

1. Scottish Home and Health Department. *Ward design.* Edinburgh, H.M.S.O., 1963. (Hospital planning notes, 1.)
2. *Dangerous drugs act,* 1951.
   Dangerous drugs act, 1964.
3. British Standards Institution. *Hospital cupboards (wall-fixing) for poisons and dangerous drugs.* London, B.S.I., 1961. (B.S. 2881 : 1961).
4. British Standards Institution. *Dressings trolley.* London, B.S.I., 1960. (B.S. 3236 : 1960.)
5. Ministry of Health. *Ward units.* London, H.M.S.O., 1963. (Hospital equipment note, 4.)

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